

B²

16. (Amended) A set of electrophoretic probes for detecting the presence or absence of one or more of a plurality nucleotide sequences in a sample, the set comprising a plurality of electrophoretic probes selected from the group defined by the formula:

(D, M)-N-T

wherein:

(D, M)-N is an e-tag reporter released from an electrophoretic probe of the set upon digestion of the electrophoretic probe by a nuclease;

D is a detection moiety;

M is a non-oligomeric compound consisting of from 1 to 500 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron;

N is a nucleotide; and

T is an oligonucleotide specific for at least one of the plurality of nucleotide sequences, each T having a length in the range of from 12 to 60 nucleotides such that at least one nucleotide of T has a capture ligand attached;

and wherein each e-tag reporter of the plurality of electrophoretic probes has a distinct charge/mass ratio so that e-tag reporters of different electrophoretic probes form distinct peaks in an electropherogram upon electrophoretic separation;

and wherein the capture ligand specifically binds to a capture agent to exclude undigested electrophoretic probes from the electropherogram.

B³

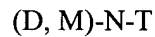
20. (Amended) The set according to claim 16, 17, or 19 wherein said formula is D-M-N-T.

21. (Amended) The set of claim 20 wherein said capture ligand is biotin and wherein said capture agent is avidin.

B⁴

24. (Amended) The set of claim 20 wherein M consists of from 2 to 100 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron.

25. (New) A set of electrophoretic probes for detecting the presence or absence of one or more of a plurality nucleotide sequences in a sample, the set comprising a plurality of electrophoretic probes selected from the group defined by the formula:



wherein:

(D, M)-N is an e-tag reporter released from an electrophoretic probe of the set upon digestion of the electrophoretic probe by a nuclease;

D is a detection moiety;

M is a non-oligomeric compound having a molecular weight of between 35 and 1500 daltons;

N is a nucleotide; and

T is an oligonucleotide specific for at least one of the plurality of nucleotide sequences, each T having a length in the range of from 12 to 60 nucleotides such that at least one nucleotide of T has a capture ligand attached;

and wherein each e-tag reporter of the plurality of electrophoretic probes has a distinct charge/mass ratio so that e-tag reporters of different electrophoretic probes form distinct peaks upon electrophoretic separation

and wherein the capture ligand specifically binds to a capture agent to exclude undigested electrophoretic probes from the electropherogram.

26. (New) The set of claim 25 wherein D is a fluorophore, chromophore, or an electrochemical label.

27. (New) The set according to claim 26 wherein said formula is D-M-N-T.

28. (New) The set of claim 27 wherein said capture ligand is biotin and wherein said capture agent is avidin.

29. (New) The set of claim 27 wherein said e-tag reporter is selected from the group consisting of the following compounds:

B5
COO:4.

